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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/699,356	10/31/2003	Robert B. Thompson JR.	02708.0148.NPUS01	2529

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EXAMINER

RADTKE, MARK A

ART UNIT	PAPER NUMBER
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2165

DATE MAILED: 06/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/699,356	Applicant(s) THOMPSON, ROBERT B.	
	Examiner Mark A. Radtke	Art Unit 2165	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 May 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>7/15/04</u> .   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-9, 11-20, 22-23, 25-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Balakrishnan et al. (U.S. Patent 7,035,240).

As to claim 1, Balakrishnan et al. teaches a data transforming system (see Abstract), including:

a plurality of receive interfaces configured to receive data (see column 5, lines 61-63, where “receive interface” is read on “cluster-head”);

a transformation module configured to transform the received data into modified data recognizable by a target system (see column 15, lines 29-32, where “transformation” is read on “aggregation” and see figure 6, step 640); and

a transmit interface configured to send data to the target system (see figure 6, step 640 and see column 6, lines 39-40, where “target system” is read on “base

station"); wherein the modified data includes a first portion of data from a first receive interface and a second portion of data from a second receive interface, and is configured according to a predetermined format of the target system (see column 15, lines 32-36).

As to claims 2, 15 and 17, Balakrishnan et al. teaches wherein the transformation module is configured to preprocess the received data and to provide optimized data to the target system, where the optimized data includes the first portion and second portions of data, and each of the first and second portions of data represents an automated selection of optimal data from corresponding portions of received data from the first and second receive interfaces (see column 15, lines 37-40).

As to claim 3, Balakrishnan et al. teaches wherein the first received data is at least received from a local source (See column 13, lines 18-20. Local sources communicate directly with the base station).

As to claims 4 and 20, Balakrishnan et al. teaches wherein the second received data is at least received from a remote source (See column 6, lines 39-40. Non-cluster heads communicate by way of cluster heads, so they are remote).

As to claim 5, Balakrishnan et al. teaches wherein the first and the second received data are received from a local source and a remote source, respectively (see

Examiner's comments regarding claims 3 and 4. When cluster heads are used, they are local sources and non-cluster-heads are remote sources).

As to claims 6 and 22, Balakrishnan et al. teaches configured to execute the transformation to generate emulated data recognizable by the target system (See column 15, lines 32-36. Data outliers are smoothed out by the clustering and data aggregation process. If this were not done, the base station would misinterpret spurious data. Aggregation ensures that only useful, or recognizable, data is presented to the user).

As to claim 7, Balakrishnan et al. teaches wherein the transformation module includes:

at least one receive interface to receive the first and second received data (see figure 2, RF 129);

a logic module to process the first and second receive data (see figure 2, Processor 128); and

at least one transmit interface to transmit optimized data (see figure 2, RF 129).

As to claims 8 and 29, Balakrishnan et al. teaches further including a third interface configured to send data to a plurality of other data transforming systems (See figure 1, elements 112a-c. Each cluster is a data transforming system).

As to claims 9 and 23, Balakrishnan et al. teaches wherein the target system is a combat system (see column 1, lines 58-60, where “combat” is read on “military”).

As to claims 11 and 25, Balakrishnan et al. teaches further including an override module configured to provide operator-selected data in place of at least one track of the automated selection of optimal data (see column 4, lines 28-30, where “operator-selection” is read on “manually”).

As to claims 12 and 26, Balakrishnan et al. teaches including logic configured to provide the first received data to the target system through bypass logic of the data transforming system (see column 4, lines 32-26, where “bypass” is read on “combined ... contains the relevant information of all the individual signals”).

As to claim 13, Balakrishnan et al. teaches wherein said data transforming system is a banking system (see column 1, lines 58-60, “civil ... applications”).

As to claim 14, Balakrishnan et al. teaches an integrated plurality of data transforming systems and associated target systems wherein each data transforming system includes (see Abstract and column 1, lines 58-60, “military applications”):

For the remaining steps of this claim applicant(s) is/are directed to the remarks and discussions made in claim 1 above.

As to claim 16, Balakrishnan et al. teaches an integrated plurality of data transforming systems and associated target systems wherein each data transforming system includes (see Abstract and column 1, lines 58-60, "military applications"):

wherein additional computer systems are integrated into the integrated plurality of data transforming systems (See column 1, lines 60-62. Each type of sensor is an additional computer system).

As to claim 18, Balakrishnan et al. teaches a method of generating and transmitting data derived from a first set of received local data and a second set of received remote data including the steps of (see Abstract).

As to claim 19, Balakrishnan et al. teaches where the signals include records (see column 4, lines 9-14, where "records" are read on "data").

As to claim 27, Balakrishnan et al. teaches a system for integrating a plurality of computer-based systems (see Abstract) including:

For the remaining steps of this claim applicant(s) is/are directed to the remarks and discussions made in claim 1 above.

As to claim 28, Balakrishnan et al. teaches wherein the means for receiving data are interfaces to sensors and networks (see Abstract and figure 2).

As to claim 30, Balakrishnan et al. teaches wherein the means for sending data are channels to a computer-based target system (see Abstract and see figure 1A, base station 102 and see figure 2, RF 129 and see column 1, lines 58-60, "military applications").

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 10 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Balakrishnan et al. as applied to claims 1, 18 and 27.

As to claims 10 and 24, Balakrishnan et al. does not explicitly teach wherein the received data includes at least one track file.

However, these differences are only found in the nonfunctional descriptive material and are not functionally involved in the steps recited. The determination of valid data would be performed the same regardless of the specific application (in this case, target tracking). Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability, (see *In re Gulack*, 703 F.2d 1381, 1385, 217



USPQ 401, 404 (Fed. Cir. 1983); *In re Lowry*, 32 F.3d 1579, 32 USPQ2d 1031 (Fed. Cir. 1994)).

Therefore, it would have been obvious to a person of ordinary skill in the relevant art at the time the invention was made to aggregate data based on any type of application (see Balakrishnan et al., column 15, lines 29-23, "Therefore, each cluster-head can preferably utilize automated methods of combining or aggregating the data into a small set of meaningful information using techniques known in the art." See Application, page 9, lines 12-14, "It may determine the most valid tracks or create additional tracks by any method including standard methods known in the art[...]"), because such data does not functionally relate to the steps in the method claimed and because the subjective interpretation of data does not patentably distinguish the claimed invention.

5. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Balakrishnan et al. as applied to claim 18 above, and further in view of Mulgund et al. (U.S. Patent 6,816,862).

As to claim 21, Balakrishnan et al. does not explicitly teach wherein the signals include real-time signals.

Mulgund et al. teaches wherein the signals include real-time signals (see column 1, lines 50-57).

Therefore, it would have been obvious to one of ordinary skill in the relevant art at the time the invention was made to have modified Balakrishnan et al. by the teaching of Mulgund et al. because "each cluster-head can preferably utilize automated methods of combining or aggregating the data into a small set of meaningful information using techniques known in the art" (see Balakrishnan et al., column 15, lines 29-23).

6. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Balakrishnan et al., and further in view of Close (U.S. Patent 3,064,250).

As to claim 31, Balakrishnan et al. teaches a method for integrating platforms (see Abstract) including:

implementing a common network interface on a plurality of combat systems (see column 1, lines 58-60), the network interface configured to:

For the remaining steps of this claim applicant(s) is/are directed to the remarks and discussions made in claim 16 above.

Balakrishnan et al. does not explicitly teach wherein the platforms are naval and maritime combat platforms and where the data consists of track data.

Close teaches wherein the platforms are naval and maritime combat platforms and where the data consists of track data (see column 1, lines 9-14).

Therefore, it would have been obvious to one of ordinary skill in the relevant art at the time the invention was made to have modified Balakrishnan et al. by the teaching of Close because "wireless distributed microsensor networks are used to monitor [...]"

military applications” and “various types of sensors **126** [...] could be interfaced to the microprocessor” (Emphasis in original. See Balakrishnan et al., column 1, lines 58-62 and column 8, lines 16-22).

### ***Additional References***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to further show the state of art with respect to sensor networks and data integration in general:

<b>Document No.</b>	<b>Inventor</b>	<b>Cited for teaching</b>
US 20050220306 A1	Westhoff, Dirk et al.	Distributed aggregation and transformation
US 5995911 A	Hart; Ronald G.	Network aggregation and transformation
US 7046166 B2	Pedyash; Maxim et al.	Network aggregation and transformation
US 6347295 B1	Vitale; Anthony J. et al.	Network aggregation and transformation
US 6509871 B2	Bevington; James E.	Network aggregation and transformation
US 6785730 B1	Taylor; Rebecca S.	Real-time sensor network
US 6768994 B1	Howard; Craig et al.	Real-time sensor network
US 6667698 B2	Apostolopoulos; John G. et al.	Distributed algorithm implementation

### ***Conclusion***

8. Any inquiry concerning this communication or earlier communications should be directed to the examiner, Mark A. Radtke. The examiner's telephone number is (571) 272-7163, and the examiner can normally be reached between 9 AM and 5 PM, Monday through Friday.

Art Unit: 2165

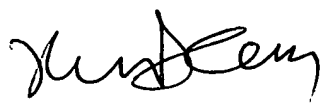
If attempts to contact the examiner are unsuccessful, the examiner's supervisor, Jeffrey Gaffin, can be reached at (571) 272-4146.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to Customer Service at (800) 786-9199.

maxr

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8 June 2006

  
**HOSAIN ALAM**  
**SUPERVISORY PATENT EXAMINER**